



### Features:

- Glass passivated chip junction
- High efficiency, low  $V_F$
- High current capability
- High reliability
- High surge current capability
- Low power loss

### Specifications:

#### Mechanical Data:

Cases	: Moulded plastic
Lead	: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
Polarity	: Colour band denotes cathode end
High temperature soldering guaranteed	: 260°C/10 seconds/0.375", (9.5mm) lead lengths at 5lbs., (2.3kg) tension
Weight	: 0.34g
Epoxy	: UL 94V-0 rate flame retardant

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Type Number	Symbol	FR103G	FR105G	FR107G	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	200	600	1,000	V
Maximum RMS Voltage	V <sub>RMS</sub>	140	420	700	
Maximum DC Blocking Voltage	V <sub>DC</sub>	200	600	1,000	
Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length at T <sub>A</sub> = 55°C	I <sub>(AV)</sub>	1			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	I <sub>FSM</sub>	30			
Maximum Instantaneous Forward Voltage at 1A	V <sub>F</sub>	1.3			V

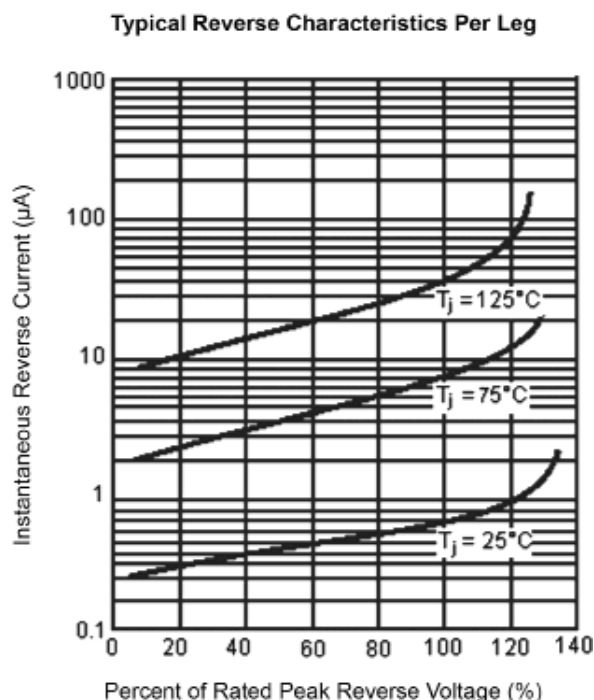
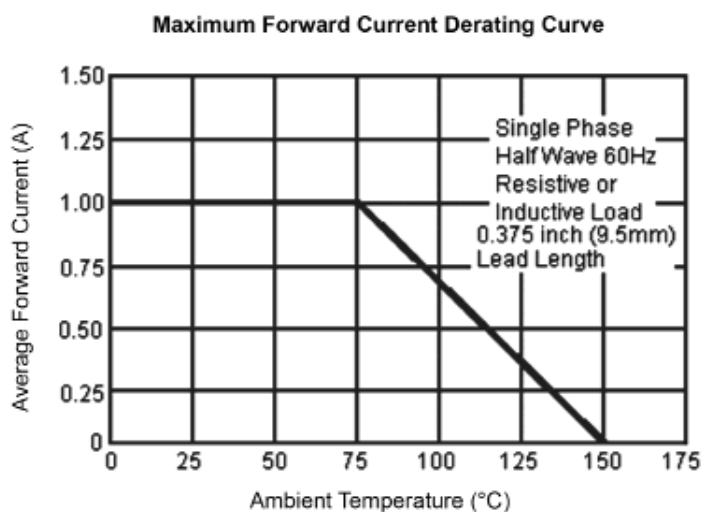
Type Number	Symbol	FR103G	FR105G	FR107G	Units
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	$I_R$	5 150			$\mu\text{A}$ $\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	150	250	500	nS
Typical Junction Capacitance (Note 2)	$C_j$	10			pF
Typical Thermal Resistance	$R_{\theta JA}$	70			$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-65 to +150			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$				

**Note: 1.** Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .

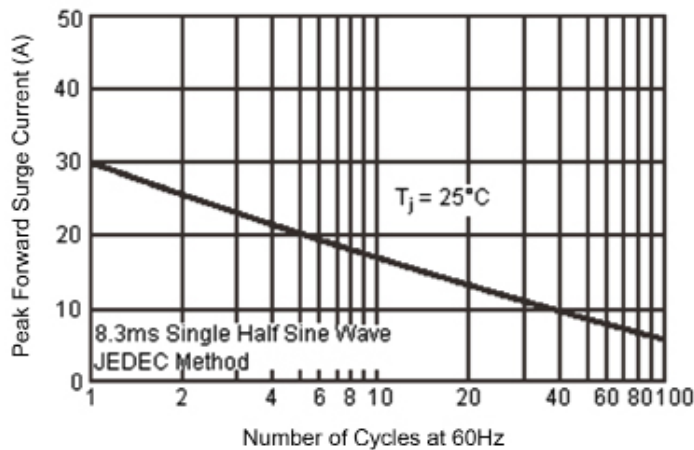
**Note: 2.** Measured at 1MHz and Applied Reverse Voltage of 4V DC.

**Note: 3.** Mount on Cu-Pad Size 5mm  $\times$  5mm on PCB.

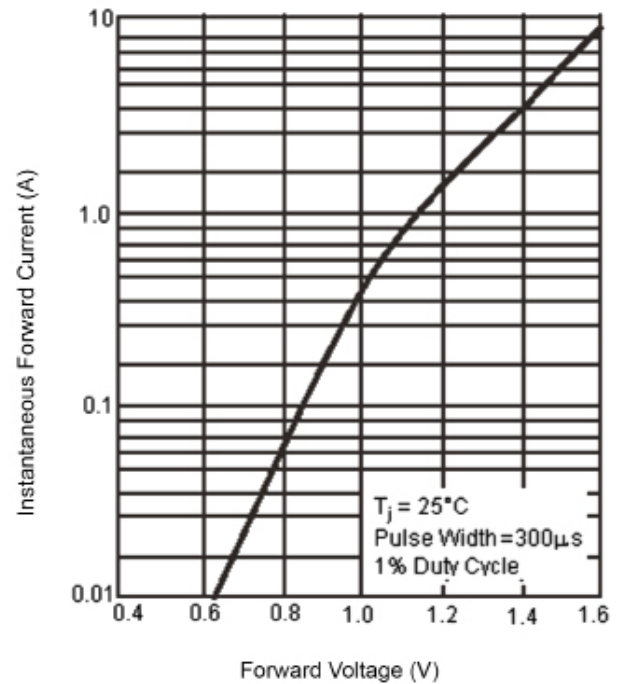
## Ratings and Characteristic Curves (FR103G, FR105G, FR107G)



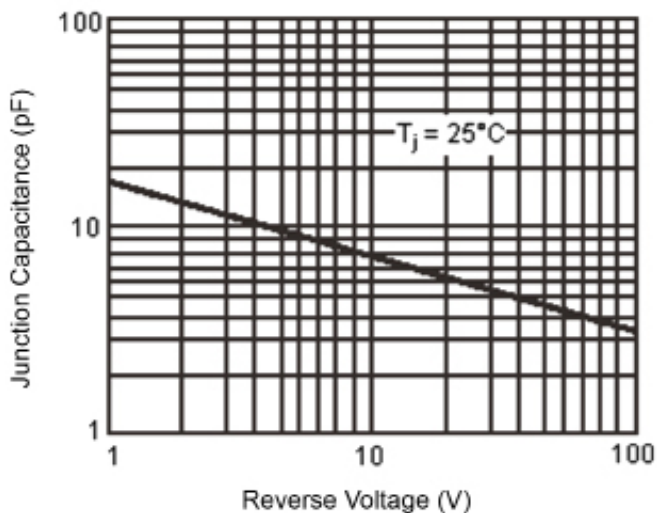
Maximum Non-Repetitive Forward Surge Current



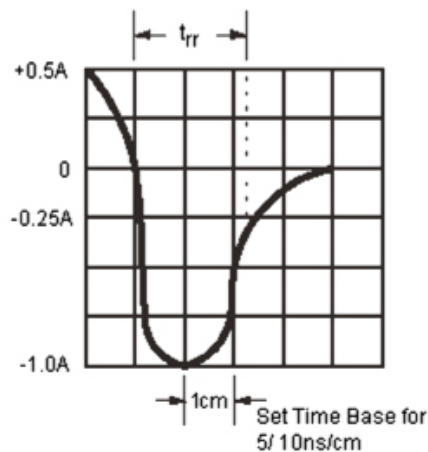
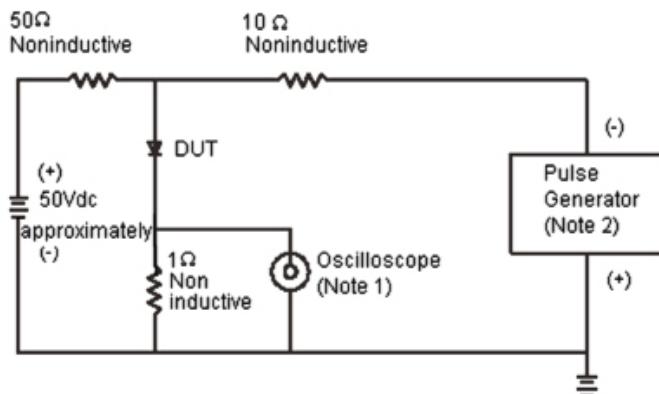
Typical Forward Characteristics



Typical Junction Capacitance



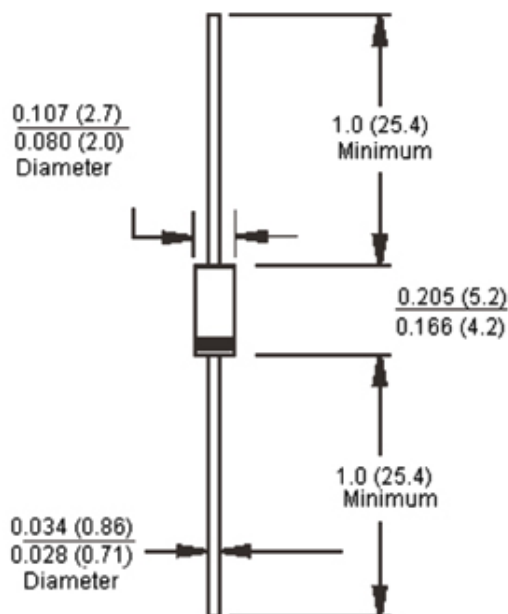
## Reverse Recovery Time Characteristic and Test Circuit Diagram



**Note: 1.** Rise Time = 7ns Maximum. Input Impedance = 1MΩ 22pf

**Note: 2.** Rise Time = 10ns Maximum Source Impedance = 50Ω

## DO-41



Dimensions : Inches (Millimetres)

## Part Number Table

Description	Part Number
Diode, Fast, 1A, 200V	FR103G
Diode, Fast, 1A, 600V	FR105G
Diode, Fast, 1A, 1,000V	FR107G

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